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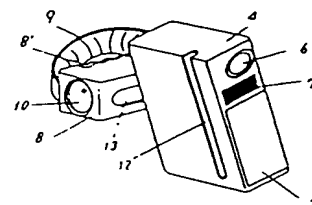
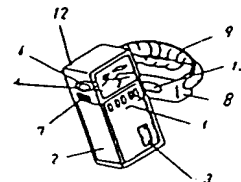
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(54) VIDEO TAPE RECORDER UNIFIED WITH CAMERA AND MONITOR  
TELEVISION

- (11) 61-150474 (A) (43) 9.7.1986 (19) JP  
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 (71) MATSUSHITA ELECTRIC IND CO LTD (72) SATOSHI KIKUTANI(1)  
 (51) Int. Cl. H04N5/225, G11B27/36, G11B31/00, G11B33/06

**PURPOSE:** To perform recording easily through a VTR part together with direct monitoring given to the tape quantity and a camera part turned to a subject for shooting with this state monitored by a monitor TV part, by forming the VTR part, a side surface through which the tape quantity can be monitored, the monitor TV part and the camera part in a monolithic form.

**CONSTITUTION:** An angle formed by a picked-up picture and a side surface through which the quantity of a tape 3 wound within a tape cassette 1 can be monitored is changed. At the same time, an angle formed by the monolithic part of a VTR part 2 and a monitor TV part 4 and a camera part 8 is also changed. Then these changed angles are held. Under such conditions, a finger is inserted between a hand holding belt 9 and a finger holding part 8' of the part 8. Thus a VTR device is totally held and a lens 10 of the part 8 is turned to a subject. Then the part 4 monitors the optimum shooting conditions including the focusing state, the position, the angle, etc. of the subject through the part 8. At the same time, the quantity of the tape 3 can also be monitored.



## ⑫ 公開特許公報(A) 昭61-150474

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⑭ 発明の名称 モニターTV付カメラ一体型VTR

⑮ 特 願 昭59-277102

⑯ 出 願 昭59(1984)12月24日

⑰ 発 明 者 菊 谷 敏 門真市大字門真1006番地 松下電器産業株式会社内  
⑱ 発 明 者 財 津 修 門真市大字門真1006番地 松下電器産業株式会社内  
⑲ 出 願 人 松下電器産業株式会社 門真市大字門真1006番地  
⑳ 代 理 人 弁理士 中尾 敏男 外1名

## 明 細 書

## 1. 発明の名称

モニターTV付きカメラ一体型VTR

## 2. 特許請求の範囲

- (1) テープカセットが装着されるVTR部と、装着される前記テープカセットのテープ巻を監視可能な側面と同一側面側にいてモニター可能な如く前記VTR部と一体的に構成されるモニターTV部と、カメラ部とを備え、前記カメラ部の撮像面と前記モニターTV部の撮像面との間に成す角度を変更可能な如く前記VTR部と前記モニターTV部とカメラ部を一体化したことを特徴とするモニターTV付きカメラ一体型VTR。
- (2) VTR部とカメラ部を着脱可能に構成したことを特徴とする特許請求の範囲第1項記載のモニターTV付きカメラ一体型VTR。

## 3. 発明の詳細な説明

産業上の利用分野

本発明は小型化されたVTRにモニターテレビ

ジョン(以下モニターTVと称す)およびビデオカメラを一体化して使用可能なモニターTV付カメラ一体型VTRに関する。

従来の技術

従来この種の機器は、例えば実開昭68-39794号公報に示されているように、第9図のような構造例になっていた。すなわち、テープカセット100を内蔵してカメラ部101よりの信号を記録するVTR部102がグリップ部103に構成されている。カメラ部103はレンズ部105より入射する光線を撮像管106の撮像面106'に結像させ、それより得られる映像信号をVTR部102に送りテープカセット100内のテープに記録するとともに、撮影中の映像をモニターすべく、モニターTV部107を備えている。

発明が解決しようとする問題点

しかしながら、上記第9図のようなモニターTV付カメラ一体型VTRの構成においては、カメ

う部101による撮影中には、被写体カメラ部101を向けると同時にモニターTV部107のスクリーン面(図示せず)をモニターしつつ操作することになる。そしてその際、VTR部102に装着されるテープカセット100を巻回されるテープ量を監視可能な側面は図上、紙面に平行な面上にあり、カメラ部101による撮影中に、同時にテープ量は監視出来ず、テープカセット100の適切な時間における交換を不可能としている。そして時にはテープ残量が無くなり、大切な撮影機会を失なったり、あるいは早めにテープカセット100を交換しすぎて無駄な未記録部分を多く残すことになる。

またカメラ部101により撮影し、VTR部102により記録した映像および音声信号を再生確認する際にもテープ残量を監視しつつ、モニターTV部107で再生するには、モニターTV部107を紙面に垂直な方向にその都度回転させる必要がある。

また係合装置104を操作して、VTR部102

前記VTR部と前記モニターTV部とカメラ部を一体化したモニターTV付きカメラ一体型VTRである。

#### 作 用

本発明は前記した構成により、撮像面を被写体に向けたカメラ部に対して相対的にテープ量監視可能な側面とモニターTV部とを一体的に回動でき、常に両者を監視しつつの撮影が可能となると同時に、撮像面とテープ量監視可能な側面とほぼ直角位置に設定することにより装置に突起部分がなくなり収納を容易とする。

#### 実施例

第2図は、本発明による一実施例を示す外観斜視図であり、不使用時の収納あるいはテーブル等に設置し再生する時の形態例を示すものである。すなわち、テープカセット1が装着されるVTR部2と、テープカセット1内に巻回されるテープ3の量を監視可能な側面(図上斜視図上面)と同一側面側においてモニター可能な如く、例えば液晶スクリーンあるいはCRTスクリーン等を有す

を分離して使用する際には、モニターTV部107がカメラ部101に取りつけられていることからその都度モニターTV部107をカメラ部101より取りはずしてVTR部102に取り付ける必要がある、装置操作が繁雑となる。

本発明はかかる点に鑑み、カメラ部により撮影し、モニターTV部によりモニターしつつ、かつ同時にVTR部による記録テープカセット内のテープ量を直接容易に監視できること、さらにVTR部とカメラ部とを分離した際にも、何ら繁雑なる装置、操作を必要とすることなく、VTR部による再生画像を得ることを目的としている。

#### 問題点を解決するための手段

本発明は、テープカセットが装着されるVTR部と、装着される前記テープカセットのテープ量を監視可能な側面と同一側面側においてモニター可能な如く前記VTR部と一体的に構成されるモニターTV部と、カメラ部とを備え、前記カメラ部の撮像面が前記テープカセットのテープ量を監視可能な側面との間に成す角度を変更可能な如く

るモニターTV部4が一体的に構成されている。なおVTR部2の上側面上にはVTR部2の操作や、モニターTV部4、カメラ部8の各種操作を行なうボタン5が設けられている。また、モニターTV部4は通常の放送受信TVとしての機能をも与えた例であり、チューナダイヤル6、およびスピーカー7等を備えている。この一体化されたVTR部2およびモニターTV部4に対して、カメラ部8が一体的に取りつけられる。カメラ部8には、モニターTV付カメラ一体型VTR(以下装置と称す)の全体、あるいは分離した際の少なくともカメラ部8を、より確実に持ち支えるに容易な如く、指に対応した凹部よりなる指受け部8'が設けられるとともに、着脱自在なハンドホルドベルト9が取り付けられている。

すなわち、ハンドホルドベルト9とカメラ部8の指受け部8'との間に指を挿入して、装置全体或いは少なくともカメラ部8を持ち支えるものである。この第2図の状態におけるVTR部2およびモニターTV部4とで一体化された部分と、カ

カメラ部8との相対位置は第3図にそれぞれ、内部の主要構成要素を同時に模式的に示した模式的側面図のようになっている。すなわち、第3図において、カメラ部8に内蔵され、レンズ10を経由して被写体(図示せず)の光を集光させ、結像させるべく設けられる撮像面11(例えばCCD撮像素子の撮像面あるいは撮像管の前面に位置する撮像面を指す)と、テープカセット1内に巻回されるテープ3の量を監視することが可能な側面との成す角度、 $\theta_1$ (図上ではテープカセット1の上面との角度で示している)、がほぼ直角な状態の例を示しているものである。このように第2図、第3図に示した状態においては装置全体が平面的な外形形状を成し、何ら突起部分が無いことから例えば本装置をビジネスメモの如き用途に使用する際にもアタッシュケース等の扁平な収納ケースへの収納をも極めて容易に可能とするものである。一方、本装置を使用しての例えば屋外等での撮影記録時には、第4図に模式的側面図を示す如く、撮像面11とテープカセット1内を

回されるテープ3の量を監視可能な側面との成す角度を第3図の $\theta_1$ より $\theta_2$ に変更して使用する。すなわち第1図および第6図(第1図の状態の視点を変更した図)にその外観斜視図を示す如く、VTR部2およびモニターTV部4とで一体化された部分とカメラ部8とが相対的に第2図に示した状態より相互に成す角度を変更した後、その角度を保持されたものである。この状態で、ハンドホールドベルト9とカメラ部8の指受け部8'との間に指を挿入して、装置全体を保持しつつ被写体(図示せず)にカメラ部8のレンズ10を向けつつ(第5図)同時に、第1図の如く、被写体のフォーカス、位置、アングル等のカメラ部8による最適な撮影条件となっているか否かをモニターTV部4でモニターすると同時に、その時のテープ3の量をモニターすることが可能となるものである。また第6図に示す如く、VTR部2およびモニターTV部4の一体化された背面にはロッドアンテナ12が設けられており、カメラ部8とモニターTV部4およびVTR部2の一体化部分と

を切り離し、第6図の如く通常のテレビジョンとしてモニターTV部4を使用することもまた、その放送映像信号をVTR部2によりテープ3上に記録することも可能となっている。

第7図は第4図における $\theta_2$ をさらに大きく変更し、かつ、カメラ部8とVTR部2およびモニターTV部4の一体化部とをスライド部13に沿って移動させ相対位置を固定してテーブル(図示せず)上等に据え置き、VTR部2の再生画像や、或いは通常の放送映像を矢印14の方向からモニターTV部4上で容易に楽しめるようにした状態を示すものである。第8図はモニターTV部4とVTR部2との一体化された部分とカメラ部との着脱あるいは相対スライド位置および角度の変更を可能とする着脱装置の模式的斜視図である。すなわちモニターTV部4およびVTR部2の一体化部には、着脱ダイヤル15およびその雄ネジ部16が回動自在に取りつけられる。一方のカメラ部8にはスライド部13が設けられその部内スライド自在にスライド雄ネジ部17が設けられ

る。そして第7図の分離状態から一体化状態にするにはスライド雄ネジ部17に雄ネジ部16を螺合させ、所望の位置および角度にカメラ部8を相対的に移動させた後着脱ダイヤル15を回転させて一体化状態に固定するものである。

#### 発明の効果

以上のように不発明によればカメラ部を被写体に向けて撮影し、その状態をモニターTV部によりモニターしつつ、かつ同時にVTR部による記録を直接テープ量を監視しつつ容易に行なうことができ、その実用的効果は大きい。また、VTR部とカメラ部とを分離して使用する際にも、何ら複雑なる装置操作を必要とすることなくVTR部による再生画像を得ることが出来るものである。

#### 4、図面の簡単な説明

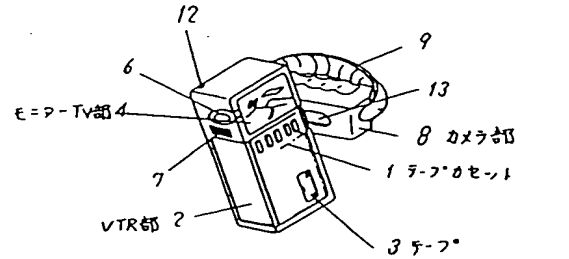
第1図および第6図は本発明による実施例の撮影時形態を示す斜視図、第2図は同、収納時形態を示す斜視図、第3図は同収納時形態における模式的側面図、第4図は同撮影時形態における模式的側面図、第5図は同分離状態を示す斜視図、第

：図は同実施例におけるモニター-TV部を目視する際の側面図、第8図は同着脱装置構成を示す斜視図、第9図は従来例を示す側面図である。

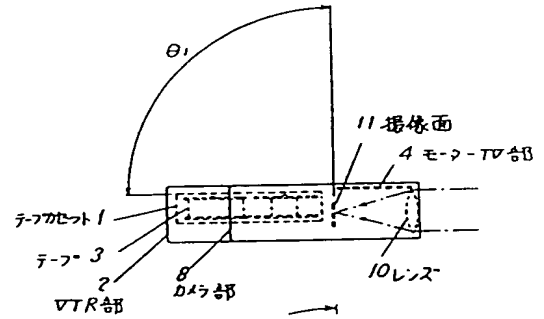
1…テープカセット、2…VTR部、3…テープ、4…モニター-TV部、5…操作ボタン、6…チューナダイヤル、7…スピーカ、8…指受部、9…ハンドホルタブレキ、12…ロッドアンテナ、13…スライド機構。

代理人の氏名 弁護士 中 尾 敏 男 ほか1名

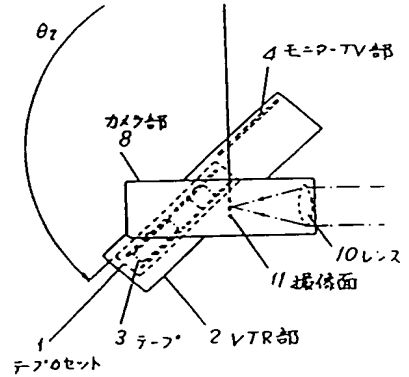
第 1 図



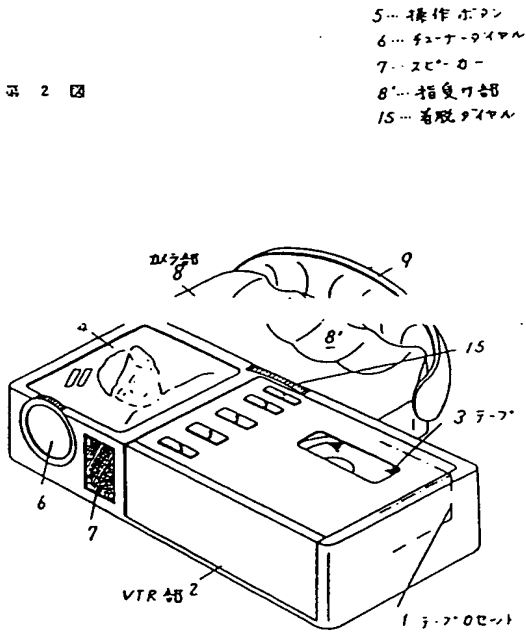
第 3 図



第 4 図

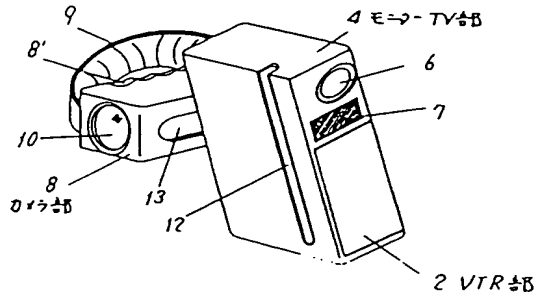


第 2 図



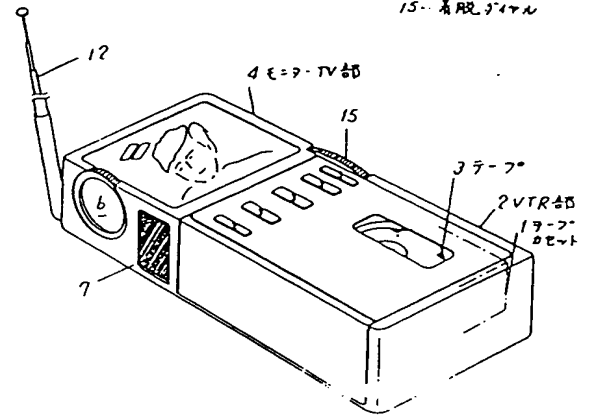
第 5 図

- 6...チューナダイヤル  
7...スピーカ  
8'...指受け部  
9...ハンドホールドベルト  
10...レンズ  
12...ロッドアンテナ  
13...スライド溝



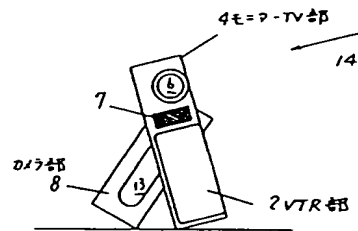
第 6 図

- 5...操作ボタン  
6...チューナダイヤル  
7...スピーカ  
12...ロッドアンテナ  
15...着脱ダイヤル



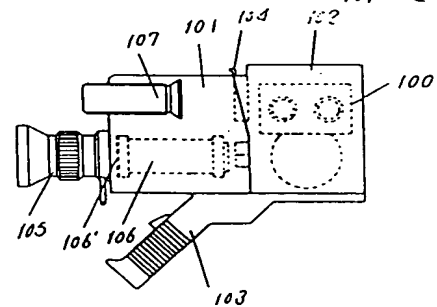
第 7 図

- 6...チューナダイヤル  
7...スピーカ  
13...スライド溝

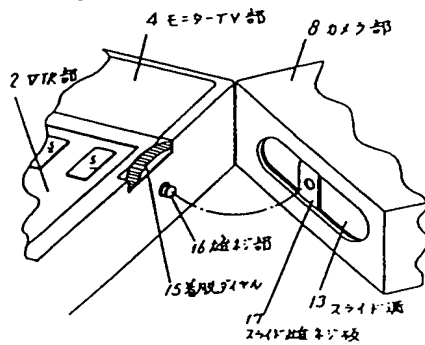


第 9 図

- 100...テーパポート  
101...カメラ部  
102...VTR部  
103...フリック  
104...係合装置  
105...レンズ部  
106...撮像管  
106'...撮像面  
107...モニター-TV



第 8 図



**CAMERA INTEGRAL VTR WITH MONITOR TV**

JAPAN PATENT OFFICE

PUBLICATION OF LAID-OPEN PATENT APPLICATION (A)

Publication number : S61-150474

Date of publication of application : 09.07.1986

Int.CI<sup>4</sup>.

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In house reference number: F1

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6507-5D

6789-5D

C-7177-5D

Examination is not requested yet.

The number of claims: 1 (total 1 page)

TITLE OF INVENTION : CAMERA INTEGRAL VTR WITH  
MONITOR TV

APPLICATION NUMBER : S59-277102

DATE OF FILING : 24.12.1984

APPLICANT : MATSUSHITA ELECTRONIC INDUSTRIES

INVENTOR : KIKUTANI, TOSHI

ZAITSU, OSAMU

ATTORNEY : NAKAO, TOSHIO (1 et al.)

SPECIFICATIONS

1. Title

Camera integral VTR with monitor TV

2. Claim

[Claim 1]

A camera integral VTR with a monitor TV comprising:

a VTR to which a tape cassette is loaded;

a monitor TV constructed integrally with the VTR in such a manner that a monitor is enabled on the same side face as a side face enabling an amount of a tape of the tape cassette to be loaded to be monitored; and

a camera, wherein

the VTR and the monitor TV are integrated so as to enable an angle formed between an imaging surface of the camera and a side face enabling the amount of the tape of the tape cassette to be monitored to be changed.

[Claim 2]

The camera integral VTR with the monitor TV set forth in claim 1, wherein a VTR and a camera are constructed so as to be detachable.

### 3. [Detailed description of the Invention]

[Field of the Invention]

The present invention relates to a usable camera integral VTR with a monitor TV that integrates a compact VTR with a monitor TV (hereafter referred to as monitor TV) and a video camera.

[Conventional prior art]

This kind of the convention unit has, for example, an example structure as described in Small Patent laid-open S58-39794 official gazette. That is, VTR unit 102 builds in tape cassette 100, and is loaded on grip portion 103 that records a signal from camera unit 101, and is constructed in a freely attached/detached way with combine device 104. Camera unit 103 forms an incident light beam from lens 105 on imaging surface 106' of image pick-up device 106, and records a picture image obtained from the formed image in a tape inside tape cassette 100, and in order to monitor a picture being shot, monitor TV is provided.

[Problems to be solved by the Invention]

However, in such the construction the camera integral VTR with the monitor TV as shown in Fig. 9 given in the above, when shooting with camera unit 101, camera unit 101 is pointed at a subject, and at the same time, an operation is executed while monitoring a screen surface (its view is not shown) of monitor TV 107. And, at this moment, as a side face capable of monitoring an amount of a tape looped over tape cassette 100 to be loaded into VTR unit 102 is on a surface paralleling with the surface of the diagram in the diagram, the amount of the tape cannot



be monitored simultaneously while shooting with camera unit 101, so that this makes it impossible to change tape cassette 100 at an appropriate time.

Then, sometimes a residual amount of the tape becomes empty, and a vital shooting chance is missed, or tape cassette 100 is changed too early, so that many wasteful non-recorded portions are left.

Even when playing back and checking the picture and sound signals shot by camera unit 101 and recorded by VTR unit 102, it is necessary to play back and check signals while monitoring the residual amount of the tape, and when playing back with monitor TV 107, it is necessary to rotate monitor TV 107 in the direction normal to the surface of the diagram every each time.

When separating VTR unit 102 by operating engagement device 104, and using it, as monitor TV 107 is attached to camera unit 101, it is necessary to detach monitor TV unit 107 from camera unit 101, and attaché it to VTR unit 102, so that operations about respective unit become complicated.

In view of these problems, an object of the present invention is to enable an amount of a tape inside a tape cassette recorded by a VTR unit to be easily monitored directly while shooting with a camera unit, and monitoring with a monitor TV simultaneously, and further obtain a playback image by the VTR unit without complicated unit-related operations even when the VTR unit is separated from the camera unit.

[Means for solving problems]

According to the present invention, a camera integral VTR with a monitor TV includes a VTR to which a tape cassette is loaded, a monitor TV constructed integrally with the VTR in such a manner that a monitor is enabled on the same side face as the side face enabling an amount of a tape of the tape cassette to be loaded to be monitored, and a camera, wherein the VTR and the monitor TV are integrated so as to enable an angle formed between an imaging surface of the camera and the a side face enabling the amount of the tape of the tape cassette to be monitored to be changed.

[Action]

With the construction of the present invention given in the above, this makes it possible to integrally turn around the side face enabling the monitor of the amount of the tape and the monitor TV relative to the camera of which the imaging surface is pointed at the subject, and by setting the imaging surface and the side face enabling the monitor of the amount of the tape to a right angle position, a protrusion disappears, thereby making the storage easier.

3. [Detailed description of the Invention]

[Field of the Invention]

The present invention relates to a camera integral VTR with a monitor TV usable by integrating a compact VTR with a monitor TV (hereafter referred to as monitor TV) and a video camera.

[Conventional prior art]

This kind of the conventional unit has, for example, an example structure as described in Small Patent laid-open Application S58-39794 official gazette. That is, VTR unit 102 builds in tape cassette 100, and is loaded on grip 103 that records a signal from camera unit 101, and is constructed in a freely attached/detached way by way of engagement device 104. Camera unit 103 forms an incident light beam from lens 105 on imaging surface 106' of image pick-up device 106, and records a picture image obtained from the formed image in a tape inside tape cassette 100, and in order to monitor a picture while shooting, monitor TV is provided.

[Problems to be solved by the Invention]

However, in such the construction of the camera integral VTR with the monitor TV as shown in Fig. 9 given in the above, when shooting with camera 101, camera 101 is pointed at a subject, and at the same time, an operation is operated while monitoring a screen surface (not shown herein) of monitor TV 107. And, at this moment, as a side face capable of monitoring an amount of a tape looped over tape cassette 100 to be loaded into VTR unit 102 is on a surface paralleling with the surface of the diagram in the diagram, the amount of the tape cannot be monitored

simultaneously while shooting with camera 101, so that this makes it impossible to change tape cassette 100 at an appropriate time. Then, sometimes a residual amount of the tape becomes empty, and a vital shooting chance is missed, or tape cassette 100 is changed too early, so that many wasteful non-record portions are left.

Even when playing back and checking the picture and sound signals shot by camera 101 and recorded by VTR 102, it is necessary to play back and check signals while monitoring the residual amount of the tape, and when playing back with monitor TV 107, it is necessary to rotate monitor TV 107 to the direction normal to the surface of the diagram every each time.

When using VTR 102 by separating it with an operation of engagement device 104, as monitor TV 107 is attached to camera 101, it is necessary to detach monitor TV 107 from camera 101, and attach it to VTR 102, so that operations about respective unit become complicated.

In view of these problems, an object of the present invention is to enable an amount of a tape inside a tape cassette recorded by a VTR to be easily monitored directly while shooting with a camera and monitoring with a monitor TV simultaneously, and further obtain a playback image by way of the VTR without complicated unit-related operations even when the VTR is separated from the camera.

[Example embodiments]

Fig. 2 is an external perspective view showing one example embodiment according to the present invention, and shows an example embodiment of a storage configuration when not in use, or a playback when put on a table, etc. That is, VTR 2 loaded with tape cassette 1 and monitor TV 4 having, for example, a liquid crystal screen or a CRT screen, etc enabling a monitor on the same side as the side face (a top surface as shown in the perspective view of the diagram) enabling an amount of tape 3 looped inside tape cassette 1 to be monitored are integrally constructed. On a top surface of VTR 2 are provided button 5 operating variety of operations of VTR 2, monitor TV 4 and camera

8. And, monitor TV 4 has a function as a TV receiving/sending a usual broadcasting, and is provided with tuner dial 6, and speaker 7, etc. Camera 8 is integrally attached to integrated VTR 2 and monitor TV 4. Finger receptor 8' consisting of a [ ] portion receiving the finger is provided in camera 8 in such a manner that the camera integral VTR with the monitor TV as a whole (hereafter referred to as the unit) or at least camera 8 when separating the unit can be securely held by the hand, and handhold belt 9 capable of being freely attached/detached is provided.

That is, the unit as a whole or at least camera 8 is held by putting the finger between handhold belt 9 and finger receptor 8' of camera 8. A relative position of a part integrated by VTR 2 and monitor TV 4 of Fig. 2, and camera 8 becomes like a graphic side view of internal major respective components as graphically shown in Fig. 3. That is, Fig. 3 shows an example state that angle  $\theta_1$  (shown by an angle to the top surface of tape cassette 1 in Fig. 1) formed by imaging surface 11 (e.g., an imaging surface of CCD image pick-up element or an imaging surface located at a front of the image pick-up device) built in camera 8 and provided for causing a ray of light from a subject (not shown herein) to be collected and formed through lens 10, and the side face enabling the amount of tape 3 looped inside tape cassette 1 to be monitored is substantially a right angle. In such the states as shown in Figs. 2 and 3, the entire unit turns into a shape of a flat external appearance, and as it does not have any protrusion at all, this makes it possible to, for example, easily use the unit for usage like a business memo, or store the unit in a flat storage case like a briefcase, etc. On the other hand, when shooting and recording by use of the unit, for example, outdoor, etc, as shown by a graphic side view in Fig. 4, the unit is used by changing the angle formed by imaging surface 11 and the side face enabling the amount of tape 3 looped inside tape cassette 1 to be monitored is changed from  $\theta_1$  of Fig. 3 to  $\theta_2$ . That is, as Figs. 1 and 5 (eye point of Fig. 1 is changed) show their exterior appearance perspective views,

after changing the angle relatively formed by the part integrated by VTR 2 and monitor TV 4 and camera 8 from the state of Fig. 2, the angle stays kept. This state makes it possible to put the finger between handheld belt 9 and finger receptor 8' of camera 8, and point lens 10 of camera 8 at a subject (not shown herein) while holding the unit as a whole (Fig. 5), and at the same time, monitor on monitor TV 4 if shooting conditions such as a focus status, a position, an angle of the subject, etc of camera 8 are suitable as shown in Fig. 1, and monitor the amount of tape 3 at this shooting. And, as shown in Fig. 5, rod antenna 12 is provided on a back face of the integrated part by VTR 2 and monitor TV 4, and it becomes possible to separate camera 8 and the part integrated by monitor TV 4 and VTR 2, and also use monitor TV 4 as the usual TV as shown in Fig. 6, and also record the broadcasting picture signal in tape 3 by VTR 2. Fig. 7 shows the state that  $\theta_1$  in Fig. 1 is further largely changed, and camera 8 and the part integrated by VTR 2 and monitor TV 4 are moved along slide groove 13, and are put on a table (not shown herein), etc by fixing the relative position thereof, and a playback image of VTR 2 or a usual broadcasting picture can be easily enjoyed on monitor TV from a direction of arrow 14. Fig. 8 is a graphic perspective view of an detachable device enabling the part integrated by monitor TV 4 and VTR 2 and the camera unit to be attached/detached, or a relative slide position and angle to be changed. That is, detachable dial 15 and its male screw 16 are provided in the part integrated by monitor TV 4 and VTR 2 in such a manner that they can be freely rotated. Slide groove 13 is provided in camera 8, and slide female screw 17 is provided so as to slide freely within this slide groove. And, in order to change from a separate state of Fig. 7 to an integrated state, male screw 16 is made fit into slide female screw 17, and after camera 8 is relatively moved to a desired position and angle, detachable dial 15 is turned around to fix the integrated state.

#### 4. Brief description of diagrams

Figs. 1 and 5 are perspective views showing the configuration

of the example embodiment of the present invention when shooting. Fig. 2 is a perspective view showing the configuration of the example embodiment of the present invention when storing. Fig. 3 is a graphic side view showing the configuration of the example embodiment of the present invention when storing. Fig. 4 is a graphic side view showing the configuration of the example embodiment of the present invention when shooting. Fig. 6 is a perspective view showing the separate state of the example embodiment of the present invention. Fig. 7 is a side view of the monitor TV in the example embodiment of the present invention. Fig. 8 is a perspective view showing the structure of the detachable device of the example embodiment of the present invention. Fig. 9 is a side view showing the conventional example.

- 1 TAPE CASSETTE
- 2 VTR
- 3 TAPE
- 4 MONITOR TV
- 5 OPERATION BUTTON
- 6 TUNER DIAL
- 7 SPEAKER
- 8' FINGER RECEPTOR
- 9 HANDHOLD BELT
- 10 LENS
- 11 IMAGING SURFACE
- 12 ROD ANTENNA
- 13 SLIDE GROOVE
- 15 DETACHABLE DIAL
- 16 MALE SCREW
- 17 SLIDE FEMALE SCREW PLATE
- 100 TAPE CASSETTE
- 101 CAMERA
- 102 VTR
- 103 GRIP
- 104 ENGAGEMENT DEVICE

Japanese laid-open Patent S61-150474

105 LENS  
106 IMAGE PICK-UP DEVICE  
106' SHOT IMAGE  
107 MONITOR TV

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